OIPE

ENTERED

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 1 <110> APPLICANT: Yu, Xuanchuan
 2        Miranda, Maricar
 3        Turner, C. Alexander Jr.
 4 <120> TITLE OF INVENTION: Novel Human Lipase and Polynucleotides Encoding the Same
 5 <130> FILE REFERENCE: LEX-0303-USA
 6 <140> CURRENT APPLICATION NUMBER: US/10/054,691
 7 <141> CURRENT FILING DATE: 2001-01-22
 8 <150> PRIOR APPLICATION NUMBER: US 60/264,049
 9 <151> PRIOR FILING DATE: 2001-01-24
10 <160> NUMBER OF SEQ ID NOS. 2
11 <170> SOFTWARE: FastSEQ for Windows Version 4.0
13 <210> SEQ ID NO: 1
14 <211> LENGTH: 4377
15 <212> TYPE: DNA
16 <213> ORGANISM: homo sapiens
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19     cctcagatcc atacctctct ctagaaagagt acattggaag ggcagctatg gccagagacc 120
20     ctgaagaatt ctcccattcc atgcaaccca aataaattag gagtgaatat gccttctaaa 180
21     tcagttcact cttctgaagcc ttctgatatt aaatttgtgg cagccattgg caatctggaa 240
22     attcctccag acccaggcac gggccgatctg gagaagcaag actggactga aaggccacag 300
23     caggtgtgca tgggagtgat gacagtcctt tcagacatca tcagatattt cagtccttct 360
24     gttccaatgc ctgtgtgcca cactggaaag agagtcatac cccacgatgg tgctgaagac 420
25     ttgtggattc aggctcaaga actggtgaga aacatgaaag agaacctgca acttgacttt 480
26     caatttgact ggaagctcat caatgtgttc ttcagtaata caagccagtg ttacctgtgc 540
27     ccctctgctc aacagaatta gctgcgcg ggcggcgtgg atgagctgat ggggggtgctg 600
28     gactacctgc agcaggattt ccccagagca tttgtaaacc tggtggacct ctctgaggtt 660
29     gcagaggtct ctcgtcagta tcacggcact tggctcagcc ctgcaccaga ggcctgtaat 720
30     tgctcagagg agaccaccog gctggccaag gtgtttatgc agtggtctta tcaggaagcc 780
31     tcgaacagcc tcctggcctc cagcaggtac agttatccagg agtccttcac cctgttttc 840
32     cagcctttct tctatgagac caacccatct ctactctagg aggaccccoa acteoaggat 900
33     tctaccacgc tggcctggca tctctggaat aggatgatcg agccagcagc agagaaagat 960
34     gagccattga gtgtaaaaca cgggaggcca atgaagtgtc cctctcagga gagcccctat 1020
35     ctgttcaggt acagaaacag caactacctg accagactgc agaaacccca agacaagctt 1080
36     gaggtaagag aaggagcgga aatcagatgt cctgacaaag accctccga tacggttccc 1140
37     aactcagttc ataggctgaa gccgggctgac atcaacgtaa ttggagccct gggtgactct 1200
38     ctcacggcag gcaatggggc cgggtccaca cctgggaacg tcttggacgt cttgactcag 1260
39     tacggaggcc tgtcctggag cgtcggcgga gatgagaaca tcggcaccgt taccacccty 1320
40     gcgaacatcc tccgggaatt caacccttcc ctgaaggget tctctgttgg cactgggaaa 1380
41     gaaaccagtc ctaatgcctt cttaaaccag gctctggcag gaggccgagc tcaggatcta 1440
42     cctatccagg ccaggaggct gttggactca atgaagaatg acacgaggat acactttcag 1500
43     gaagactgga agataataac cctgttttata ggcggcaatg acctctgtga tttctgcaat 1560
44     gatctggtcc actattctcc ccagaacttc acagacaaca ttggaaagcc cctggacatc 1620
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RAW SEQUENCE LISTING   DATE: 02/24/2002
PATENT APPLICATION: US/10/054,691   TIME: 15:31:36

Input Set : N:\Crf3\Refhold\J054691.raw
Output Set: N:\CRF3\02222002\J054691.raw

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46      ctgaggagc tgtaccagga gaaaaaagtt tactgccaa ggatgatcct caggtctctg 1740
47      tgtccctgtg tcctgaagtt tgatgataac tcaaagaac ttgctaccct catcgaattc 1800
48      aacaagaagt ttgaggagga gacccaccaa ctgattgaga gttggcgata tgacacaagg 1860
49      gaagatttta ctgttgttgt gcagccgttc tttgaaaacg tggacatgcc aaagacctcg 1920
50      gaaggattgc ctgacaactc tttcttcgct cctgactgtt tccacttcag cagcaagtct 1980
51      cactcccgag cagccagtgc tctctggaac aatatgctgg agcctgttgg ccagaagacg 2040
52      actcgtcata agtttgaaaa caagatcaat atcacatgtc cgaaccaggt ccagccgttt 2100
53      ctgaggacct acaagaacag catgcaggt catggacct ggctgccatg caggacaga 2160
54      gcccttctg ccttgcacct tacctcagtg catgccctga gacctgcaga catccaagtt 2220
55      gtggctgctc tggggattc tctgacctgt ggcaatggaa ttggctccaa acagacgac 2280
56      ctcccgatg tcaccacaca gtatcggggga ctgtcataca gtgcaggagg ggacggctcc 2340
57      ctggagaatg tgacccacct acctaatatc cttcggggagt ttaacagaaa cctcacaggc 2400
58      tacgccgtgg gcaccggtga tgccaatgac acgaatgcat tcctcaatca agctgttccc 2460
59      ggagcaaagg ctgaggatct tatgagccaa gtccaaactc tgatgcagaa gatgaaagat 2520
60      gatcatagag taaatttcca tgaagactgg aaggtcatca cagtgctgat cggaggcagc 2580
61      gattatgtg actactgcac agattcgaat ctgtattctg cagccaactt tgttgaccat 2640
62      ctccggaatg ccttggacgt cctgcataga gaggtgccca gagtcctggt caacctcgtg 2700
63      gacttcctga acccactat catgcggcag gtgttcctgg gaaacccaga caagtgccca 2760
64      gtgcagcagg ccagcgtttt gtgtaactgc gtttctgacc tgcgggagaa ctcccaagag 2820
65      ctagccaggc tgtgaggcct cagccgagcc tacggagca ggatgcgcga gctggtgggg 2880
66      tcaggccgct atgacacgca ggaggagttc tctgtggtgc tgcagccct cttccagaac 2940
67      atccagctcc ctgtcctggc ggatgggctc ccagatacgt ccttctttgc cccagactgc 3000
68      atccaccaa atcagaaatt ccactccag ctggccagag cccttggac caatatgctt 3060
69      gaaccacttg gaagcaaaac agagaccctg gacctgagag cagagatgcc catcacctgt 3120
70      cccactagta atgagccctt cctgagaacc cctcggaata gtaactacac gtaccccatc 3180
71      aagccagcca ttgagaactg gggcagtgac ttcctgtgta cagagtggaa ggcttccaat 3240
72      agtgttcccaa cctctgtcca ccagctccga ccagcagaca tcaaagtggt ggcggccctg 3300
73      ggtgactctc tgactacagc agtgggaggct cgaccaaaca actccagtga cctaccaca 3360
74      tcttggaggg gactctcttg gagcattgga gggatggga acttggagac tcacaccaca 3420
75      ctgcccacaa ttctgaagaa gttcaaccct tacctccttg gcttctctac cagcacctgg 3480
76      gagggacag caggactaaa tgtggcagcg gaaggggcca gagctagga catgccaggc 3540
77      caggcctggg acctggtaga gcgaatgaaa aacagcccg acatcaacct ggagaaaagat 3600
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79      gaggccact tgcccacgga atatgttcag cacatccaac aggcctgga catcctctct 3720
80      gaggagctcc caagggcttt cgtcaacgtg gtggaggtca tggagctggc tagcctgtac 3780
81      caggccaag gcggaaatg tgccatgtctg gcatctaaa acaactgcac ttgcctcaga 3840
82      cactcgaaa gctcctgga gaagcaagaa ctgaagaaag tgaactggaa cctccagcat 3900
83      ggcatctcca gtttctccta ctggcaccaa tacacacagc gtgaggatca tgcgtttgtg 3960
84      gtgcagcctt tcttccaaaa cacactcacc ccactgaacg agagagggga cactgacctc 4020
85      acttcttct ccgaggactg ttttcactc tcagaccgcg ggcatggcga gatggccatc 4080
86      tcactctgga acaacatgct ggaaccagta ggccgcaaga ctacctccaa caacttcacc 4140
87      cacagccgag ccaaactcaa gtgcccctct cctgagagcc cttacctcta caccctgcgg 4200
88      aacagccgat tgctccaga ccaggctgaa gaagcccccg aggtgctcta ctggctgtc 4260
89      ccagtgcag cgggagtcgg cctgtggtg ggcatcatcg ggacagtggt ctggagtgc 4320
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<210> SEQ ID NO: 2
<211> LENGTH: 1458
<212> TYPE: PRT

RAW SEQUENCE LISTING   DATE: 02/24/2002
PATENT APPLICATION: US/10/054,691   TIME: 15:31:36

Input Set : N:\Crf3\Refhold\J054691.raw
Output Set: N:\CRF3\02222002\J054691.raw

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96 <400> SEQUENCE: 2
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98       1               5                  10                 15
99      Gly Gln Gly Thr Pro Gln Ile His Thr Ser Pro Arg Lys Ser Thr Leu
100                      20                 25                 30
101      Glu Gly Gln Leu Trp Pro Glu Thr Leu Lys Asn Ser Pro Phe Pro Cys
102                      35                 40                 45
103      Asn Pro Asn Lys Leu Gly Val Asn Met Pro Ser Lys Ser Val His Ser
104              50                 55                 60
105      Leu Lys Pro Ser Asp Ile Lys Phe Val Ala Ala Ile Gly Asn Leu Glu
106              65                 70                 75                 80
107      Ile Pro Pro Asp Pro Gly Thr Gly Asp Leu Glu Lys Gln Asp Trp Thr
108                      85                 90                 95
109      Glu Arg Pro Gln Gln Val Cys Met Gly Val Met Thr Val Leu Ser Asp
110                      100                105                110
111      Ile Ile Arg Tyr Phe Ser Pro Ser Val Pro Met Pro Val Cys His Thr
112                      115                120                125
113      Gly Lys Arg Val Ile Pro His Asp Gly Ala Glu Asp Leu Trp Ile Gln
114              130                135                140
115      Ala Gln Glu Leu Val Arg Asn Met Lys Glu Asn Leu Gln Leu Asp Phe
116              145                150                155                160
117      Gln Phe Asp Trp Lys Leu Ile Asn Val Phe Phe Ser Asn Ala Ser Gln
118                      165                170                175
119      Cys Tyr Leu Cys Pro Ser Ala Gln Gln Asn Gly Leu Ala Ala Gly Gly
120                      180                185                190
121      Val Asp Glu Leu Met Gly Val Leu Asp Tyr Leu Gln Gln Glu Val Pro
122                      195                200                205
123      Arg Ala Phe Val Asn Leu Val Asp Leu Ser Glu Val Ala Glu Val Ser
124              210                215                220
125      Arg Gln Tyr His Gly Thr Trp Leu Ser Pro Ala Pro Glu Pro Cys Asn
126              225                230                235                240
127      Cys Ser Glu Glu Thr Thr Arg Leu Ala Lys Val Val Met Gln Trp Ser
128                      245                250                255
129      Tyr Gln Glu Ala Trp Asn Ser Leu Leu Ala Ser Ser Arg Tyr Ser Glu
130                      260                265                270
131      Gln Glu Ser Phe Thr Val Val Phe Gln Pro Phe Phe Tyr Glu Thr Thr
132                      275                280                285
133      Pro Ser Leu His Ser Glu Asp Pro Arg Leu Gln Asp Ser Thr Thr Leu
134              290                295                300
135      Ala Trp His Leu Trp Asn Arg Met Met Gln Pro Ala Gly Glu Lys Asp
136              305                310                315                320
137      Glu Pro Leu Ser Val Lys His Gly Arg Pro Met Lys Cys Pro Ser Gln
138                      325                330                335
139      Glu Ser Pro Tyr Leu Phe Ser Tyr Arg Asn Ser Asn Tyr Leu Thr Arg
140                      340                345                350
141      Leu Gln Lys Pro Gln Asp Lys Leu Glu Val Arg Glu Gly Ala Glu Ile
142              355                360                365
143      Arg Cys Pro Asp Lys Asp Pro Ser Asp Thr Val Pro Thr Ser Val His
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/054,691

DATE: 02/24/2002
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Input Set : N:\Crf3\Refhold\J054691.raw
Output Set: N:\CRF3\02222002\J054691.raw

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144         370                375                380
145         Arg Leu Lys Pro Ala Asp Ile Asn Val Ile Gly Ala Leu Gly Asp Ser
146         385                390                395                400
147         Leu Thr Ala Gly Asn Gly Ala Gly Ser Thr Pro Gly Asn Val Leu Asp
148                         405                410                415
149         Val Leu Thr Gln Tyr Arg Gly Leu Ser Trp Ser Val Gly Gly Asp Glu
150                         420                425                430
151         Asn Ile Gly Thr Val Thr Thr Leu Ala Asn Ile Leu Arg Glu Phe Asn
152                     435                440                445
153         Pro Ser Leu Lys Gly Phe Ser Val Gly Thr Gly Lys Glu Thr Ser Pro
154                     450                455                460
155         Asn Ala Phe Leu Asn Gln Ala Val Ala Gly Gly Arg Ala Glu Asp Leu
156         465                470                475                480
157         Pro Val Gln Ala Arg Arg Leu Val Asp Leu Met Lys Asn Asp Thr Arg
158                         485                490                495
159         Ile His Phe Gln Glu Asp Trp Lys Ile Ile Thr Leu Phe Ile Gly Gly
160                     500                505                510
161         Asn Asp Leu Cys Asp Phe Cys Asn Asp Leu Val His Tyr Ser Pro Gln
162                     515                520                525
163         Asn Phe Thr Asp Asn Ile Gly Lys Ala Leu Asp Ile Leu His Ala Glu
164                     530                535                540
165         Val Pro Arg Ala Phe Val Asn Leu Val Thr Val Leu Glu Ile Val Asn
166         545                550                555                560
167         Leu Arg Glu Leu Tyr Gln Glu Lys Lys Val Tyr Cys Pro Arg Met Ile
168                     565                570                575
169         Leu Arg Ser Leu Cys Pro Cys Val Leu Lys Phe Asp Asp Asn Ser Thr
170                     580                585                590
171         Glu Leu Ala Thr Leu Ile Glu Phe Asn Lys Lys Phe Gln Glu Lys Thr
172                     595                600                605
173         His Gln Leu Ile Glu Ser Gly Arg Tyr Asp Thr Arg Glu Asp Phe Thr
174                     610                615                620
175         Val Val Val Gln Pro Phe Phe Glu Asn Val Asp Met Pro Lys Thr Ser
176         625                630                635                640
177         Glu Gly Leu Pro Asp Asn Ser Phe Phe Ala Pro Asp Cys Phe His Phe
178                     645                650                655
179         Ser Ser Lys Ser His Ser Arg Ala Ala Ser Ala Leu Trp Asn Asn Met
180                     660                665                670
181         Leu Glu Pro Val Gly Gln Lys Thr Thr Arg His Lys Phe Glu Asn Lys
182                     675                680                685
183         Ile Asn Ile Thr Cys Pro Asn Gln Val Gln Pro Phe Leu Arg Thr Tyr
184                     690                695                700
185         Lys Asn Ser Met Gln Gly His Gly Thr Trp Leu Pro Cys Arg Asp Arg
186         705                710                715                720
187         Ala Pro Ser Ala Leu His Pro Thr Ser Val His Ala Leu Arg Pro Ala
188                     725                730                735
189         Asp Ile Gln Val Val Ala Ala Leu Gly Asp Ser Leu Thr Ala Gly Asn
190                     740                745                750
191         Gly Ile Gly Ser Lys Pro Asp Asp Leu Pro Asp Val Thr Thr Gln Tyr
192                     755                760                765
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Input Set : N:\Crf3\Refhold\J054691.raw
Output Set: N:\CRF3\02222002\J054691.raw

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193      Arg Gly Leu Ser Tyr Ser Ala Gly Gly Asp Gly Ser Leu Glu Asn Val
194          770             775             780
195      Thr Thr Leu Pro Asn Ile Leu Arg Glu Phe Asn Arg Asn Leu Thr Gly
196      785             790             795             800
197      Tyr Ala Val Gly Thr Gly Asp Ala Asn Asp Thr Asn Ala Phe Leu Asn
198                  805             810             815
199      Gln Ala Val Pro Gly Ala Lys Ala Glu Asp Leu Met Ser Gln Val Gln
200                  820             825             830
201      Thr Leu Met Gln Lys Met Lys Asp Asp His Arg Val Asn Phe His Glu
202          835             840             845
203      Asp Trp Lys Val Ile Thr Val Leu Ile Gly Gly Ser Asp Leu Cys Asp
204          850             855             860
205      Tyr Cys Thr Asp Ser Asn Leu Tyr Ser Ala Ala Asn Phe Val Asp His
206      865             870             875             880
207      Leu Arg Asn Ala Leu Asp Val Leu His Arg Glu Val Pro Arg Val Leu
208                  885             890             895
209      Val Asn Leu Val Asp Phe Leu Asn Pro Thr Ile Met Arg Gln Val Phe
210                  900             905             910
211      Leu Gly Asn Pro Asp Lys Cys Pro Val Gln Gln Ala Ser Val Leu Cys
212                  915             920             925
213      Asn Cys Val Leu Thr Leu Arg Glu Asn Ser Gln Glu Leu Ala Arg Leu
214          930             935             940
215      Glu Ala Phe Ser Arg Ala Tyr Arg Ser Ser Met Arg Glu Leu Val Gly
216      945             950             955             960
217      Ser Gly Arg Tyr Asp Thr Gln Glu Asp Phe Ser Val Val Leu Gln Pro
218                  965             970             975
219      Phe Phe Gln Asn Ile Gln Leu Pro Val Leu Ala Asp Gly Leu Pro Asp
220                  980             985             990
221      Thr Ser Phe Phe Ala Pro Asp Cys Ile His Pro Asn Gln Lys Phe His
222          995             1000            1005
223      Ser Gln Leu Ala Arg Ala Leu Trp Thr Asn Met Leu Glu Pro Leu Gly
224          1010            1015            1020
225      Ser Lys Thr Glu Thr Leu Asp Leu Arg Ala Glu Met Pro Ile Thr Cys
226      1025            1030            1035            1040
227      Pro Thr Gln Asn Glu Pro Phe Leu Arg Thr Pro Arg Asn Ser Asn Tyr
228                  1045            1050            1055
229      Thr Tyr Pro Ile Lys Pro Ala Ile Glu Asn Trp Gly Ser Asp Phe Leu
230                  1060            1065            1070
231      Cys Thr Glu Trp Lys Ala Ser Asn Ser Val Pro Thr Ser Val His Gln
232          1075            1080            1085
233      Leu Arg Pro Ala Asp Ile Lys Val Val Ala Ala Leu Gly Asp Ser Leu
234          1090            1095            1100
235      Thr Thr Ala Val Gly Ala Arg Pro Asn Asn Ser Ser Asp Leu Pro Thr
236      1105            1110            1115            1120
237      Ser Trp Arg Gly Leu Ser Trp Ser Ile Gly Gly Asp Gly Asn Leu Glu
238                  1125            1130            1135
239      Thr His Thr Thr Leu Pro Asn Ile Leu Lys Lys Phe Asn Pro Tyr Leu
240                  1140            1145            1150
241      Leu Gly Phe Ser Thr Ser Thr Trp Glu Gly Thr Ala Gly Leu Asn Val
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file: C:\Crf3\Outhold\VsrJ054691.htm

2 24 02

VERIFICATION SUMMARY   DATE: 02/24/2002
PATENT APPLICATION: US/10/054,691   TIME: 15:31:37

Input Set : **N:\Crf3\Refhold\J054691.raw**
Output Set: **N:\CRF3\02222002\J054691.raw**